at1110paper__practice__test (v112)

1. Expand the following expression into standard form.

$$(3x - 7)(3x + 7)$$

$$9x^2 + 21x - 21x - 49$$
$$9x^2 - 49$$

2. Expand the following expression into standard form.

$$(7x - 3)(5x + 6)$$

$$35x^2 + 42x - 15x - 18$$
$$35x^2 + 27x - 18$$

3. Solve the equation.

$$8x^2 + 7x + 8 \ = \ 5x^2 - 4x - 2$$

$$3x^2 + 11x + 10 = 0$$
$$(3x + 5)(x + 2) = 0$$
$$x = \frac{-5}{3} \qquad x = -2$$

4. Factor the expression.

$$64x^2 - 49$$

$$(8x - 7)(8x + 7)$$

5. Factor the expression.

$$x^2 + 6x - 16$$

$$(x - 2)(x + 8)$$

6. Solve the equation with factoring by grouping.

$$15x^2 - 12x + 10x - 8 \;=\; 0$$

$$(3x + 2)(5x - 4) = 0$$

$$x = \frac{-2}{3} \qquad x = \frac{4}{5}$$

7. Solve the equation.

$$(4x + 9)(2x + 3) \;=\; 0$$

$$x = \frac{-9}{4} \qquad x = \frac{-3}{2}$$

8. Expand the following expression into standard form.

$$(3x + 7)^2$$

$$9x^2 + 21x + 21x + 49$$

$$9x^2 + 42x + 49$$